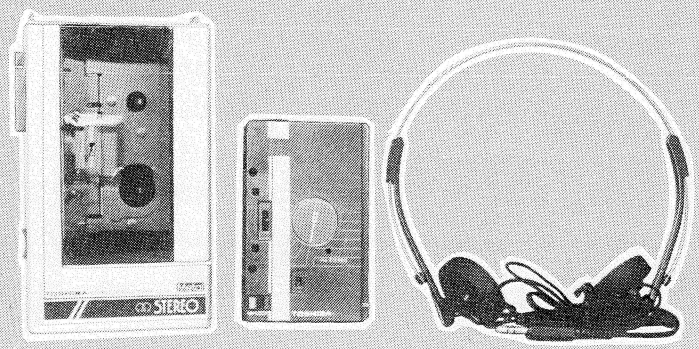
TOSHIBA

STEREO CASSETTE PLAYER

KT-S3



SPECIFICATIONS

– Tape Section –	
Track system:	Stereophonic
Recommended tape:	Normal ferric, chrome dioxide, and metal alloy: C-30 to C-120
Tape speed:	4.8 cm/sec.
Frequency response:	Reproduction: 40 – 12 kHz
Output terminals:	3.5 mm dia. stereo headphone jack x 2
Maximum output power:	Integration: 80 mW (40 mW + 40 mW) with 32 ohm load
Battery life:	Approx. 5 hours for tape playback at 1 mW output Approx. 11 hours for radio operation
Power supply:	6V DC (SUM-3 "AA" x 4) External power source supplied to the [DC IN 6V] jack (5.0 mm dia. center contact positive)
Dimensions:	89(W) x 147(H) x 31.5(D) mm
Weight:	415 g (including batteries but not the tuner pack)
– Tuner Section –	
Receiving frequency:	88 MHz – 108 MHz

- This FM stereo tuner pack (RP-S2) is designed exclusively for this unit, KT-S1, KT-S2, KT-R1 and KT-R2, and is not usable in other types of cassette recorders.

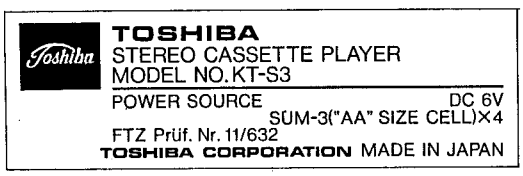
Specifications are subject to change without notice.

TA, TC, AY, YY, FY

CONTENTS

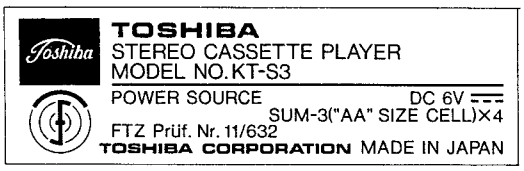
1. OPERATING CONTROLS 3
2. DISASSEMBLY INSTRUCTIONS ..... 4 to 5
3. BLOCK DIAGRAM 6
4. ALIGNMENT INSTRUCTIONS ..... 7 to 8
5. ELECTRICAL PARTS LOCATION 9, 11
   5-1 CASSETTE PLAYER SECTION 9
   5-2 FM TUNER PACK SECTION 11
6. SCHEMATIC DIAGRAM 10, 12
   6-1 CASSETTE PLAYER SECTION 10
   6-2 FM TUNER PACK SECTION 12
7. MECHANISM EXPLODED VIEW 13
8. MOTOR REPLACEMENT 14
9. CABINET EXPLODED VIEW 15, 18
   9-1 CASSETTE PLAYER SECTION 15
   9-2 FM TUNER PACK SECTION 18
10. PARTS LIST 16, 17, 19, 22
   10-1 MECHANISM & CASSETTE PLAYER CABINET 16
   10-2 CASSETTE PLAYER 17
   10-3 FM TUNER PACK 19
   10-4 ACCESSORIES 21
11. HEADPHONE SECTION 20
   11-1 HEADPHONE EXPLODED VIEW 20
   11-2 HEADPHONE PARTS LIST 20

Cassette Player
Nameplate (KT-S3)
(TA, TC, AY, YY)



FM Tuner Pack
Name Label (RP-S2)
(TA, TC)

Cassette Player
Nameplate (KT-S3)
(FY)



FM Tuner Pack
Name Label (RP-S2)
(AY, YY)

1. OPERATING CONTROLS

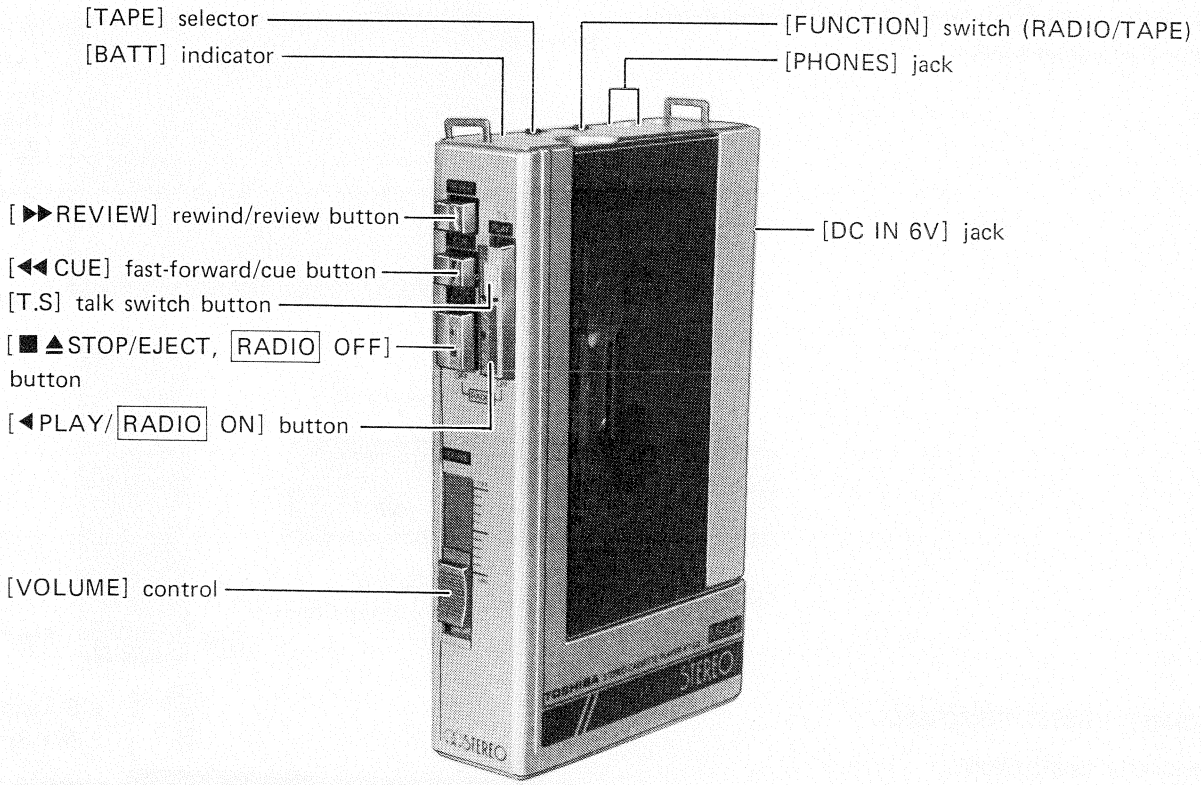


Figure 1.

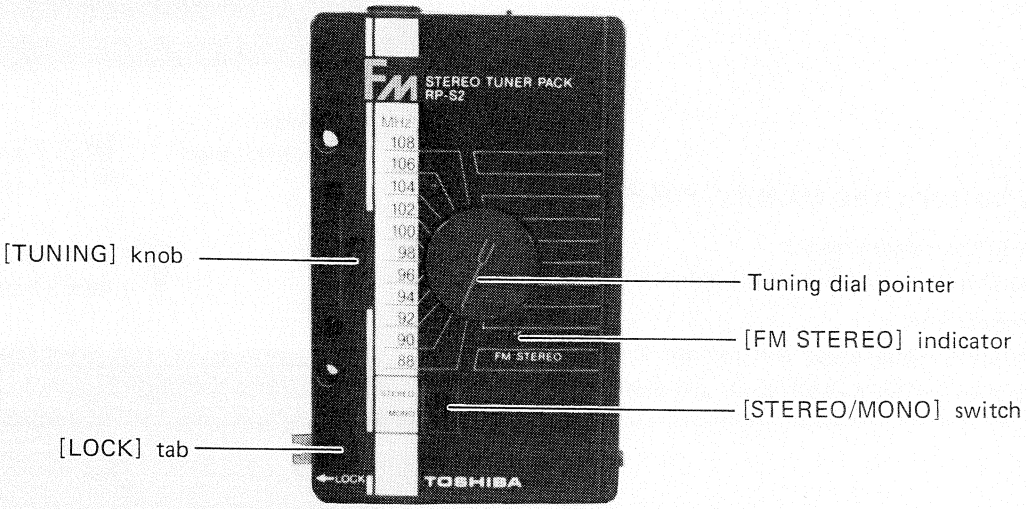


Figure 2.

2. DISASSEMBLY INSTRUCTIONS

■ CABINET BACK REMOVAL

1. Remove screws (A), (B), (C) which secure cabinet back and a screw (D) which holds the right strap to detach the cabinet back.

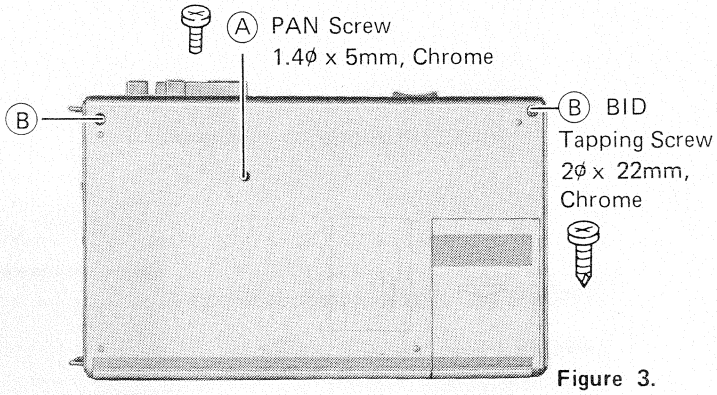


Figure 3.

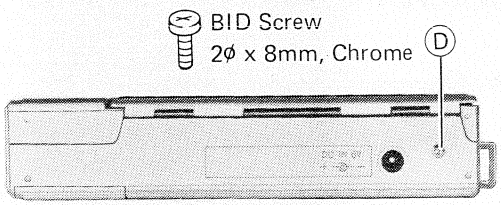


Figure 4.

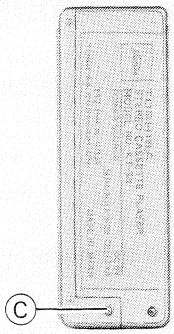


Figure 5.

■ CABINET FRONT REMOVAL

1. Remove the cabinet back.
2. Remove screws (E), (F) which hold mechanism to detach the cabinet front.

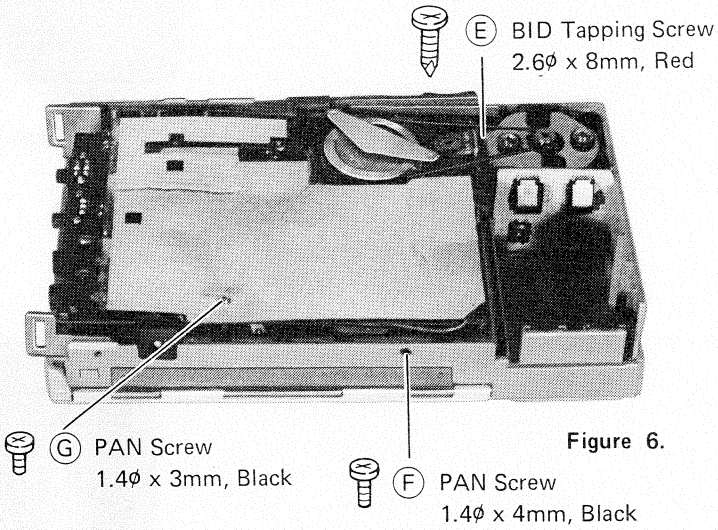


Figure 6.

■ HOW TO OPEN THE MAIN P.C. BOARD

1. Remove the cabinet back.
2. Remove the screw (G) which holds the P.C. Board and mechanism.
3. Open the cassette cover and remove 2 screws (H) which hold the mechanism cover and connector.

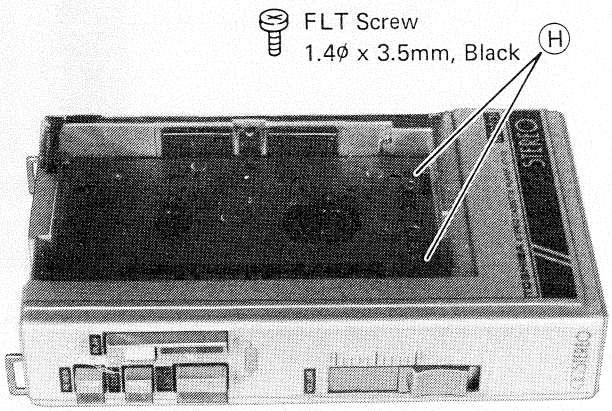


Figure 7.

TUNER PACK SERVICING

1. Remove the special screws (1) at the cabinet bottom of the tuner pack.
2. Detach the cabinet top of the tuner pack.
3. Open the cassette cover and set the cassette in the cassette compartment with the cabinet top of the tuner pack removed.
   In this state, you can also open the P.C. Board of the tuner pack.

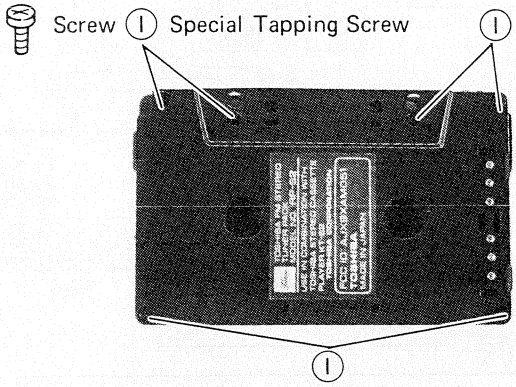


Figure 8.

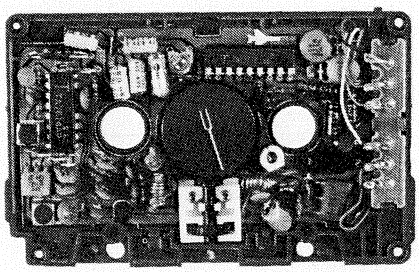


Figure 9.

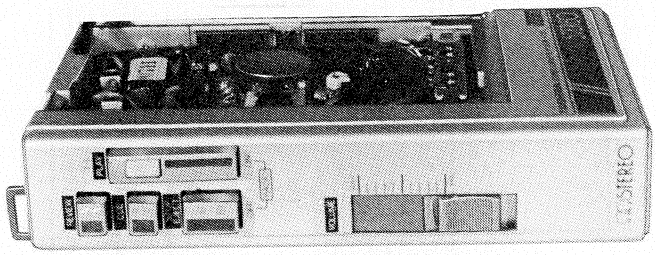


Figure 10.

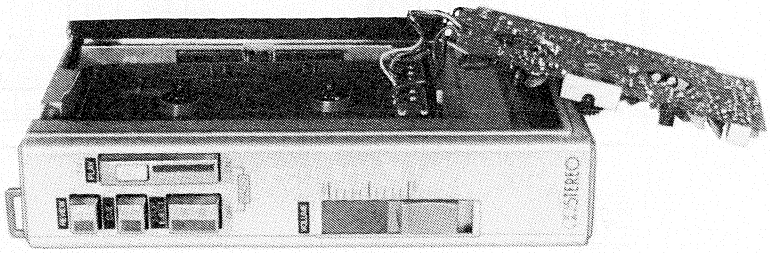


Figure 11.

3. BLOCK DIAGRAM

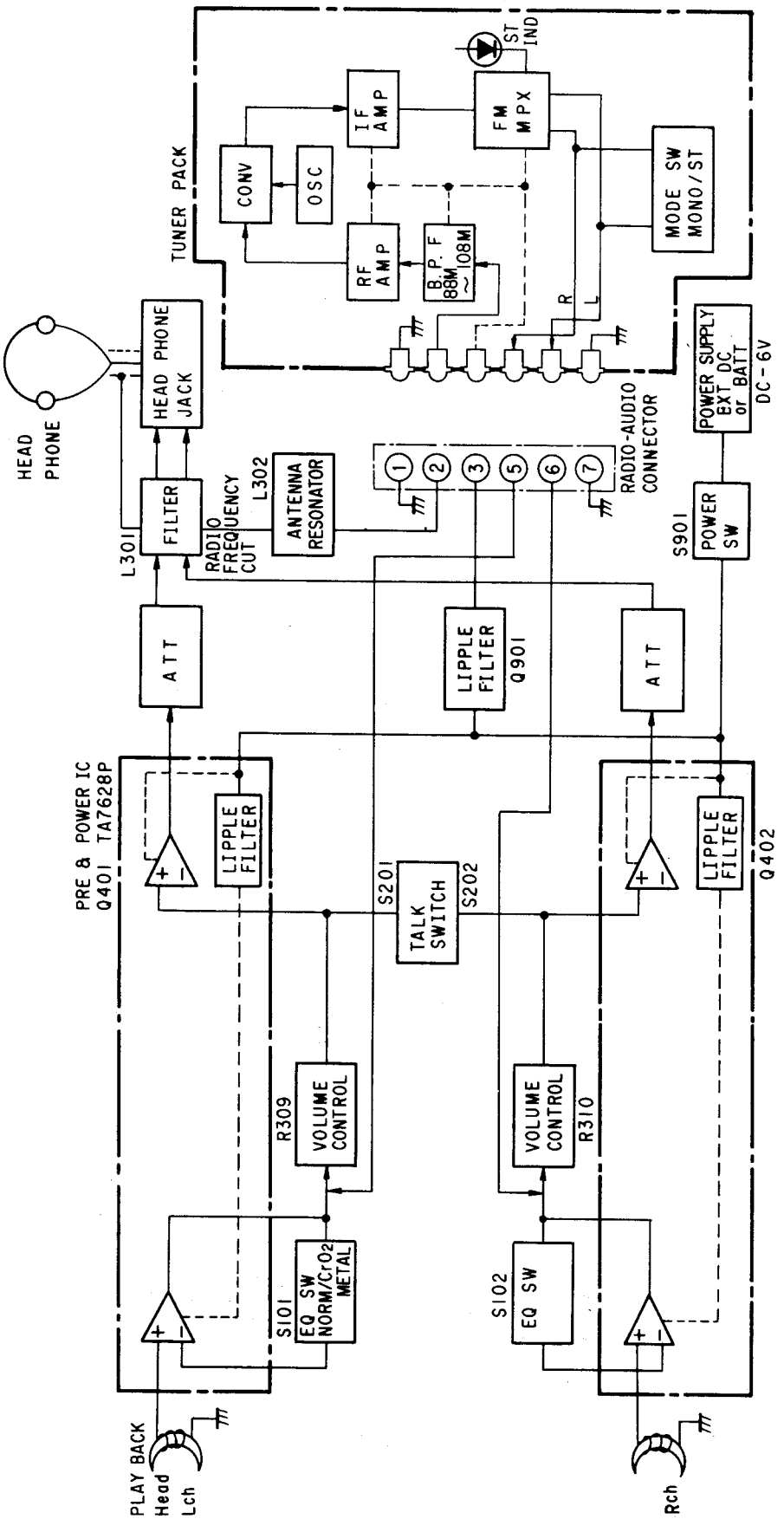


Figure 12.

4. ALIGNMENT INSTRUCTIONS

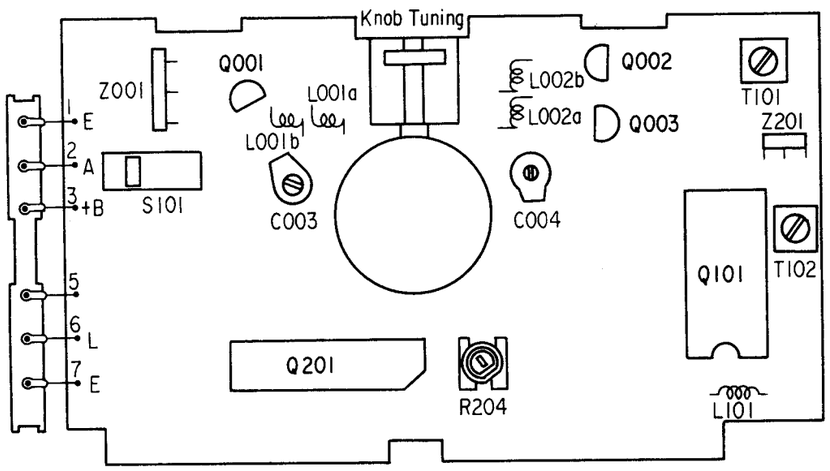


Figure 13.

FM-IF ALIGNMENT

1. Turn on both sweep generator and oscilloscope, and allow a fifteen-minute warm-up period.
2. Connect the RF SWEEP SIGNAL OUTPUT from the signal generator through the loop antenna to the receiver.
3. Connect the oscilloscope vertical input directly to the test point L or R and connect the shielded lead to the test point Earth.
4. Connect the SWEEP VOLTAGE OUTPUT of the sweep generator to the oscilloscope.
5. Proceed as outlined in the FM-IF ALIGNMENT CHART.

FM-IF ALIGNMENT CHART

Step	Signal coupling	Equip.	Tuning	Connection	Adjust. point	Pattern
1	Connect sweep generator output to a three-turn loop antenna of 10cm diameter.	Sweep generator of 10.7 MHz center freq. with 10.7 MHz marker.	Tuning Knob fully counter-clockwise (Highest Frequency.)	Set scope for connecting output signal from TUN OUT to vertical axis of scope "V" and sweep generator output to horizontal axis "H".	L004 T102	Turn the coil T102 fully counterclockwise to obtain a single peak. Fig. 16 Adjust coil T101 in order until the best single peak is obtained. Finally turn the coil T102 to obtain S curve. Fig. 17

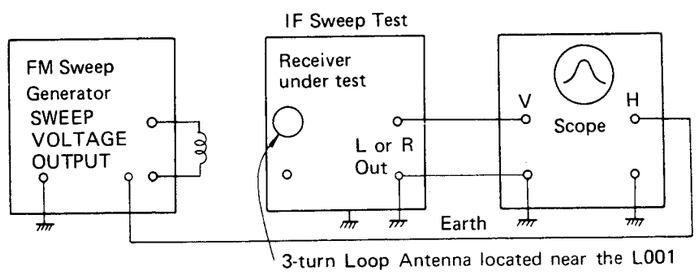


Figure 14.

Generator Couping Hook-Up

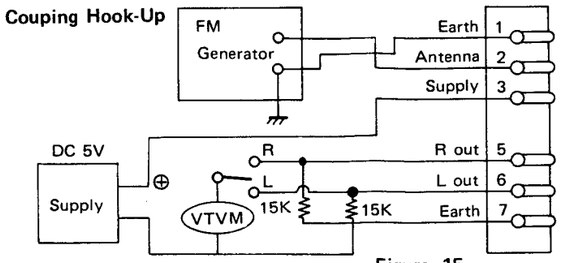


Figure 15.

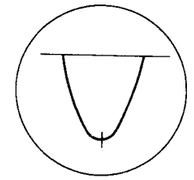


Figure 16.

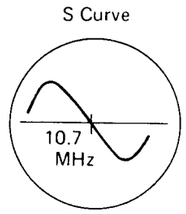


Figure 17.

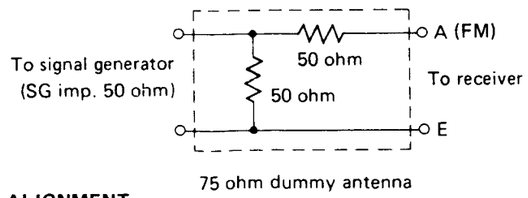
FM-RF ALIGNMENT

1. Turn on the signal generator and the VTVM, and allow a fifteen-minute warm-up period.
2. Connect the signal generator output through a 75 ohm dummy antenna across FM ANT.
3. Connect the VTVM across a 15K ohm dummy load.
4. Adjust the signal generator frequency as indicated in FM-RF ALIGNMENT CHART, and maintain a sufficient signal output level to provide a measurable indication.
5. Proceed as outlined in the FM-RF ALIGNMENT CHART.

FM-RF ALIGNMENT CHART

Step	Signal Generator	Radio Dial Setting	Adjustment	Remarks
1	87.5 MHz	Tuning Knob fully Counterclockwise (Lowest Frequency)	OCS. Coil L002	Adjust for maximum output indication
2	108 MHz	Tuning Knob fully Clockwise (Highest Frequency)	OSC. Trim. C004	Adjust for maximum output indication
3	Repeat steps 1 and 2 as required.			
4	90MHz	Tune to signal	RF Coil L001	Adjust for maximum output indication
5	106 MHz		Ant. Trim. C003	
6	Repeat steps 4 and 5 as required.			

CAUTION: When realigning the FM Receiving Frequency, the highest end of the frequency range should not be more than 108 MHz and the lowest end of the frequency range should not be less than 87.5 MHz, in order to comply with FTZ regulations in West Germany.



75 ohm dummy antenna

FREE RUN FREQUENCY ALIGNMENT

Adjust R204 under no signal condition so as to obtain 76 kHz ± 150 Hz.

PLAYBACK HEAD ADJUSTMENT

A 6.3 kHz standard tape must be used for this adjustment. Connect a VTVM or an oscilloscope to the EXT Speaker jack and adjust the azimuth by using a phillips screwdriver to maintain the maximum output voltage.

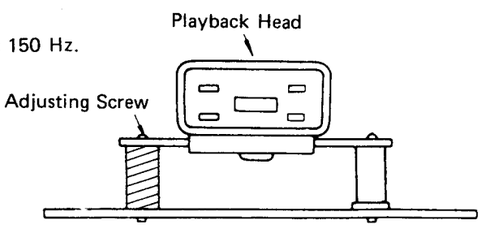
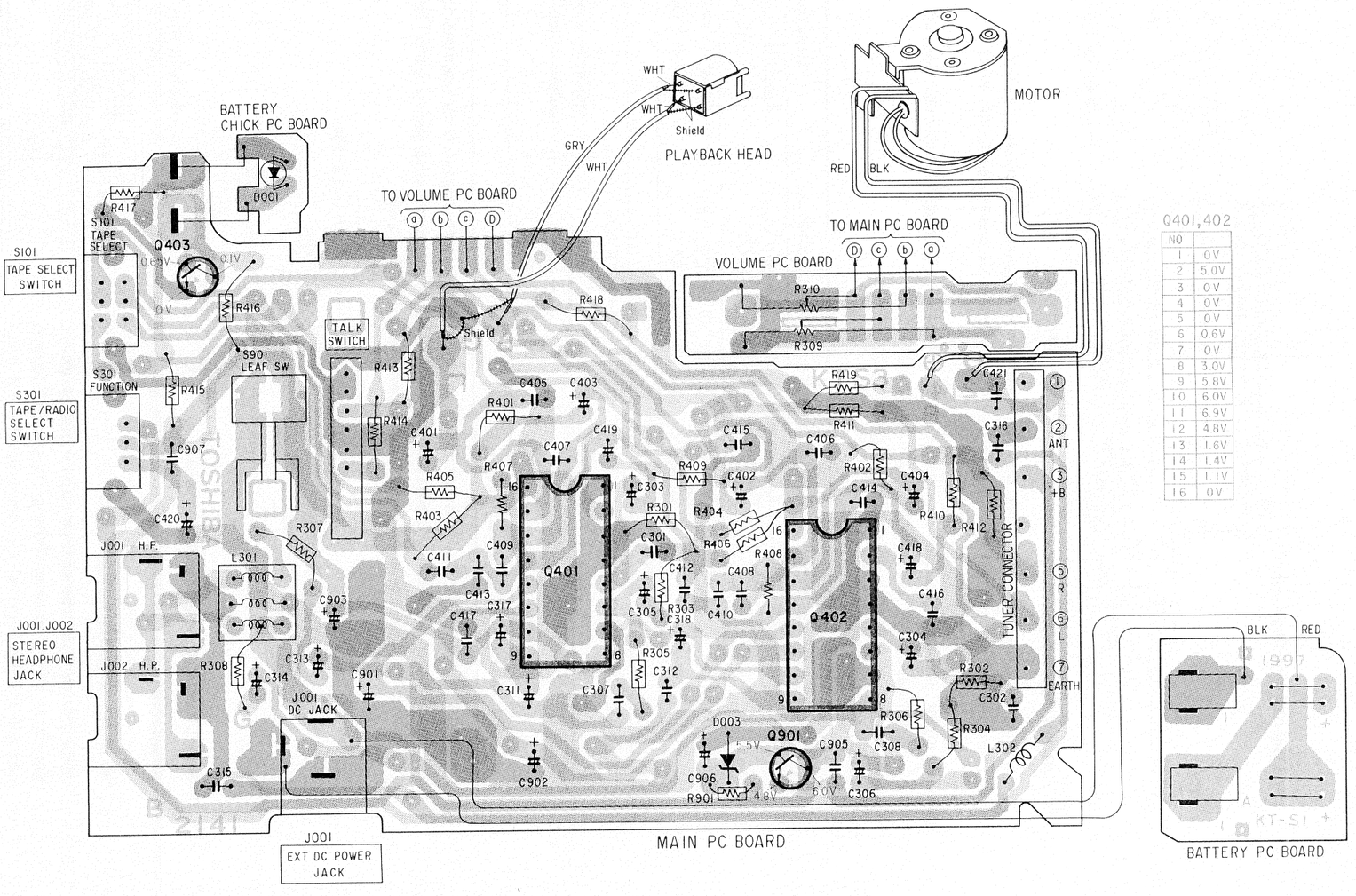


Figure 18. Playback Head Adjustment

5-1. ELECTRICAL PARTS LOCATIONS

– CASSETTE PLAYER SECTION –



5-2. ELECTRICAL PARTS LOCATIONS

– FM TUNER PACK SECTION –

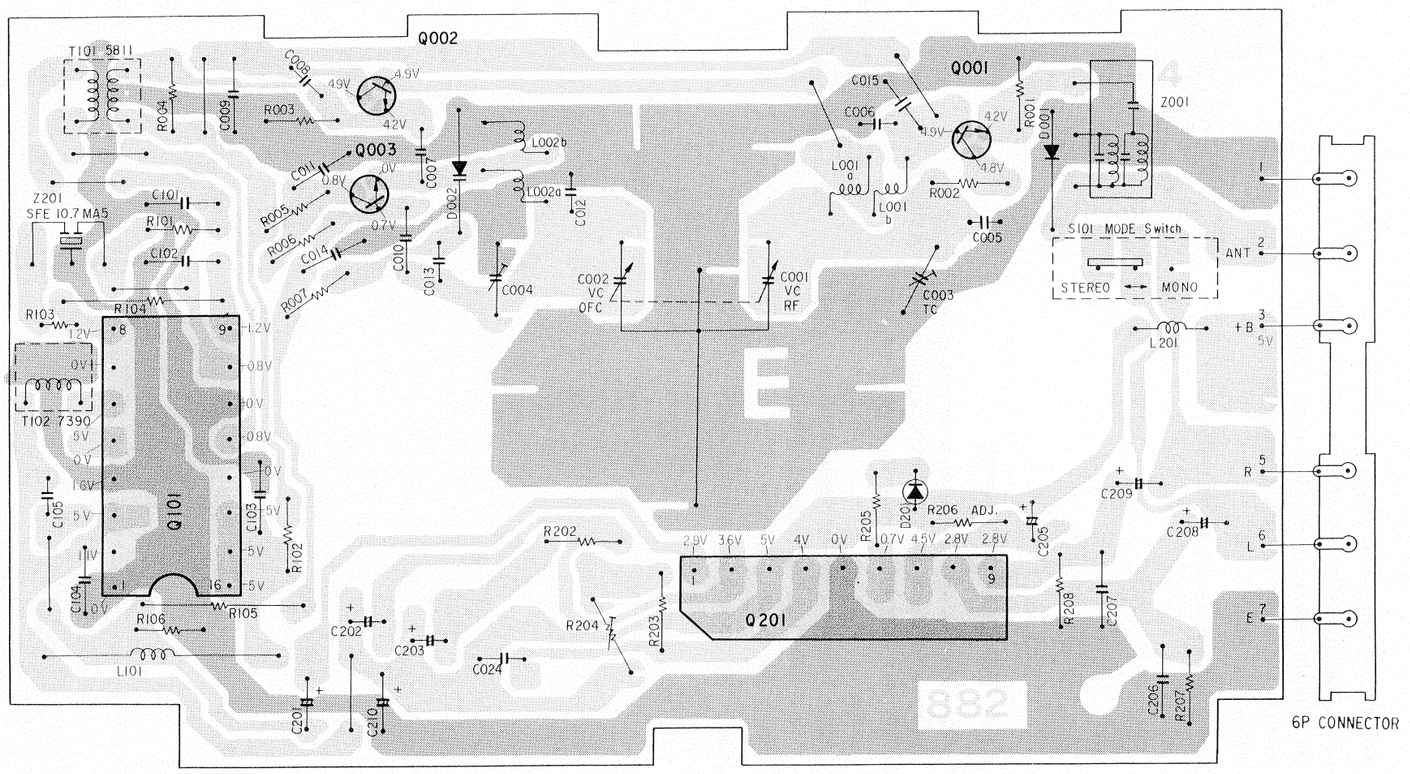
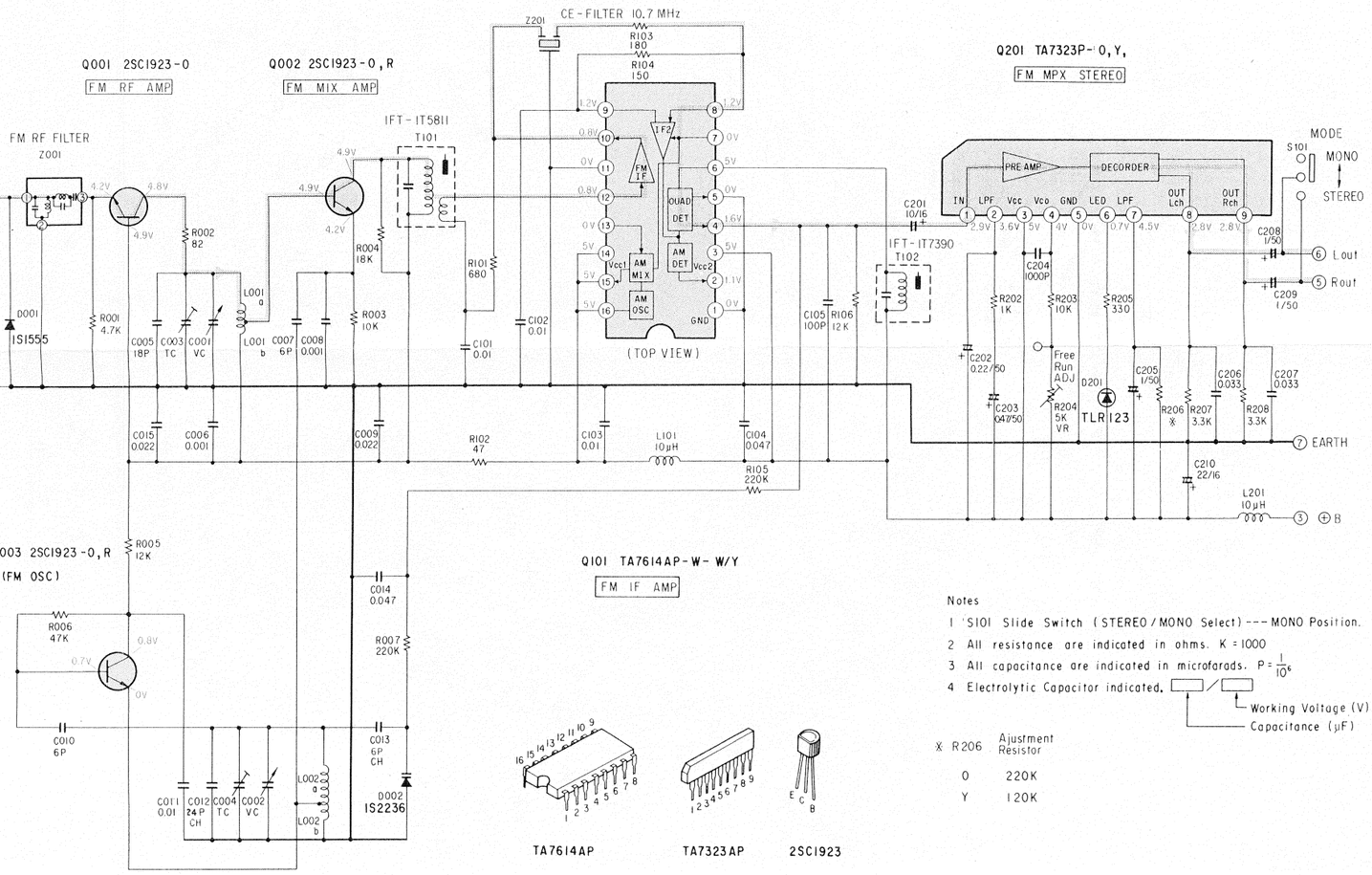


Figure 21.

6-2. SCHEMATIC DIAGRAM

– FM TUNER PACK SECTION –



Notes

1 'S101 Slide Switch (STEREO/MONO Select) --- MONO Position.

2 All resistance are indicated in ohms. K = 1000

3 All capacitance are indicated in microfarads. P = $\frac{1}{10^6}$

4 Electrolytic Capacitor indicated. (Working Voltage (V) / Capacitance (μF))

※ R206 Ajustment Resistor

0	220K
Y	120K

Figure 22.

7. MECHANISM EXPLODED VIEW

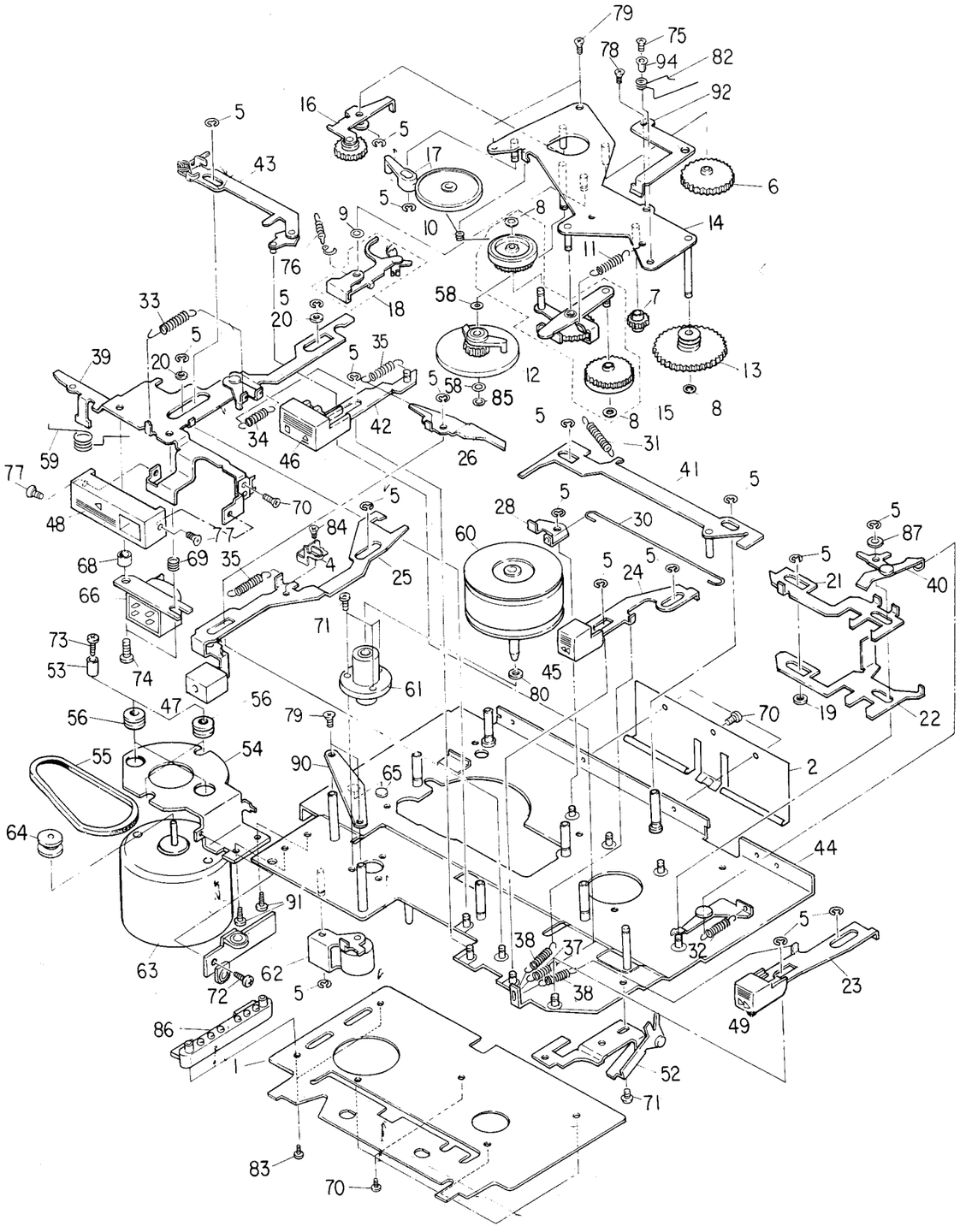


Figure 23.

8. MOTOR REPLACEMENT

1. MOTOR PULLEY REMOVAL

Put a preheated soldering iron on the upper part of the pulley to melt the metal glue between the motor pulley and the shaft of the motor and pull the motor pulley upward strongly. (See Fig. 24)

Caution: Do not scorch your fingers.

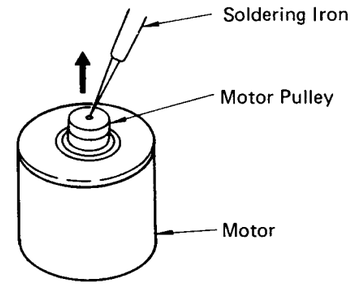


Figure 24.

2. MOTOR PULLEY INSTALLATION

(1) Maintain a gap (1mm) between motor and motor pulley as shown in Fig.25and apply a little metal glue, LOCTITE 601 (22964085) from the top of the motor pulley.

(2) Spread the glue between them by reciprocating the pulley and then fix it while keeping the adequate gap for one minute.

Caution: Do not put glue around part A in Fig. 25.

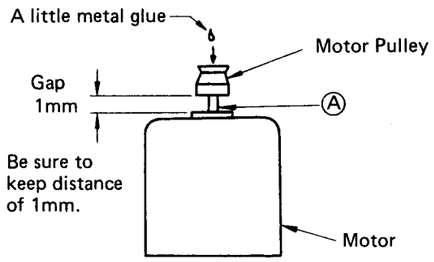


Figure 25.

9–1. CABINET EXPLODED VIEW

– CASSETTE PLAYER SECTION –

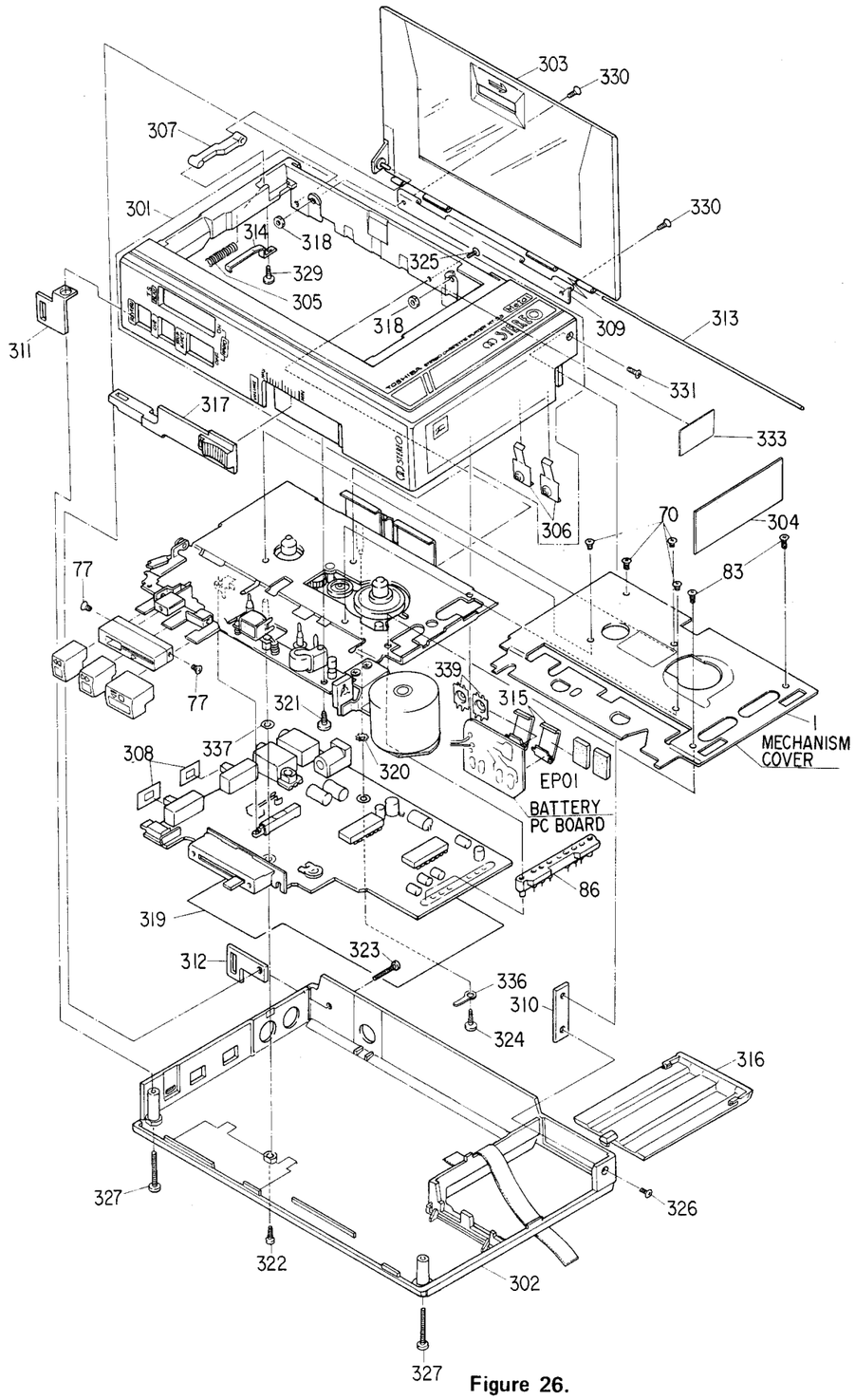


Figure 26.

10–1. PARTS LIST

– MECHANISM & CASSETTE PLAYER CABINET –

Symbol No.	Part No.	Description
		MECHANISM PARTS
1	25737005	Cover, Mechanism, S3
2	25779051	Spring, Holder
4	25779134	Spring
5	25735254	E Ring, 1.5ø
6	25756226	Gear, Cam
7	25756220	Gear, Rewind
8	25764361	Washer
9	25766097	Washer
10	25773464	Spring, Take-up Lever
11	25776153	Spring
12	25712394	Reel Ass'y, Take-up
13	25712373	Reel Ass'y, Supply
14	25712374	Sub Chassis Ass'y
15	25713537	Gear Ass'y, Fast
16	25713516	Lever Ass'y, Detect
17	25713557	Lever Ass'y, Take-up
18	25791079	Lever Ass'y, Detect
19	22703166	Washer
20	25726562	Roller
30	25775191	Wire, Release
31	25776145	Spring
32	25776146	Spring
33	25776379	Spring
34	25776148	Spring
35	25776149	Spring
37	25776151	Spring
38	25776152	Spring
40	25791373	Lever Ass'y, Up Drive
45	25782479	Button, Fast Forward
46	25782478	Button, Stop
47	25782495	Button, Talk Switch
48	25782477	Button, Playback
49	25782480	Button, Rewind
53	25726568	Spacer
55	25755522	Belt, Drive
56	25761424	Cushion, Motor
58	25766099	Washer
59	25773501	Spring, Pressure Lever
60	25717467	Flywheel Ass'y
61	25717441	Holder Ass'y, Capstan
62	25717465	Lever Ass'y, Pressure
63	22125803	Motor, DC, 6V
64	25758042	Pulley, Motor
65	25764593	Washer, Thrust
66	22217403	Head, Playback, Ass'y, HRPT-403
68	25726563	Spacer
69	25772504	Spring, Head, R
70	22707495	Screw, 1.4ø x 1.6mm, FLT
71	22707496	Screw, 1.4ø x 2.5mm, PAN, BLK
72	22701467	Screw, 2ø x 3mm, BID
73	22707451	Screw, 2ø x 5mm, BID

Symbol No.	Part No.	Description
74	22707505	Screw, 2ø x 6mm, BID
75	22707797	Screw, 1.4ø x 4mm, FLT
76	25776154	Spring
77	22707760	Screw, 1.4ø x 2.5mm, PAN
78	22707811	Screw, 1.4ø x 2.5mm, FLT
79	22707544	Screw, 1.4ø x 2mm, FLT
80	25764597	Washer
82	25773527	Spring
83	22707828	Screw, 1.4ø x 3.5mm, FLT, BLK
85	22766098	Washer
86	25781254	Connector
87	25735238	Washer
91	22707824	Screw, 2ø x 2.5mm, CNL
92	25732365	Stopper
		CABINET PARTS
301	25881594	Cabinet Ass'y, Front
302	25881595	Cabinet Ass'y, Back
303	25881596	Cassette Cover Ass'y
304	25808329	Name Label, (FY)
305	25777072	Spring, Eject
306	25779217	Spring, Battery
307	25830252	Arm, Eject
308	25857087	Cover, Switch, B
309	25846585	Hinge
310	25846584	Bracket, Hold
311	25847269	Strap, Left
312	25847270	Strap, Right
315	25839256	Spring, Battery
316	25838963	Cover, Battery
317	25837857	Knob, Variable Volume
318	22707827	Nut
320	22703319	Washer
321	22707525	Screw, 2.6ø x 8mm, BID Tapping, RED
322	22707593	Screw, 1.4ø x 5mm, PAN FL
323	22707595	Screw, 2ø x 8mm, BID, Chrome
324	22707612	Screw, 1.4ø x 3mm, PAN FL BLK
325	22707614	Screw, 1.4ø x 4mm, PAN FL BLK
326	22707738	Screw, 1.4ø x 3mm, PAN, Chrome
327	22707788	Screw, 2ø x 22mm, BID, Tapping, Chrome
329	22701245	Screw, 2ø x 6mm, BID, Tapping
330	22707486	Screw, 1.7ø x 4mm, FLT
331	22707740	Screw, 1.4ø x 2.5mm, PAN, Chrome
333	22900142	Label, Caution
337	25766067	Washer
339	25846564	Spring, Battery, Plus

10–2. PARTS LIST

– CASSETTE PLAYER SECTION –

Symbol No.	Part No.	Description
	TRANSISTORS, ICS AND DIODES	
Q401, 402	B0356140	IC, TA7628P
Q403	A6332430	Transistor, 2SC2458-Y
Q901	A6332440	Transistor, 2SC2458-GR
D001	A8603110	Diode, TLR205
D003	A7285900	Diode, 02Z5.6A
	ELECTRICAL PARTS	
J001	22163721	Jack, DC Power (DC-6V)
J002, 003	22163946	Jack, 3.5ϕ, Stereo Headphone
S101, 102	22196055	Switch, Slide, Tape Select
S201, 202	22195886	Switch, Slide, Muting
S301	22196054	Switch, Slide, Tape/Radio
S901	22195432	Switch, Leaf, Power
L301	22292136	Coil, RT-51-2136
L304	22294361	Coil, FM, RF
EP01	22191997	PC Board, Battery
	CAPACITORS **D = ±0.5pF, K = ±10%, M = ±20%** **ABBREVIATIONS: CD = Ceramic Disk, EL = Electrolytic** **BL = Barrier Layer**	
C301, 302	22360367	CD, 2200pF, 50V, K
C303, 304	22440398	EL, 3.3mfd, 50V
C305, 306	22440277	EL, 22mfd, 6.3V
C307, 308	22360362	CD, 470pF, 50V, K
C311	22440279	EL, 47mfd, 6.3V
C312	22483470	EL, 47mfd, 10V
C313, 314	22440279	EL, 47mfd, 6.3V
C315	22362180	CD, 18pF, 50V, K
C316	22360371	CD, 4pF, 50V, D
C317, 318	22440271	EL, 0.47mfd, 50V
C401, 402	22440398	EL, 3.3mfd, 50V
C403, 404	22440398	EL, 3.3mfd, 50V
C405, 406	22360624	BL, 2200pF, 25V, K
C407, 408	22360620	BL, 1000pF, 25V, K
C409, 410	22360365	CD, 100pF, 50V, K
C411, 412	22360574	BL, 6800pF, 25V, K
C413, 414	22360344	BL, 0.01mfd, 25V, M
C415, 416	22360367	CD, 2200pF, 50V, K
C417	22360344	BL, 0.01mfd, 25V, M
C418	22440398	EL, 3.3mfd, 50V
C419	22440398	EL, 3.3mfd, 50V
C420	22440279	EL, 47mfd, 6.3V
C421	22360344	BL, 0.01mfd, 25V, M
C901	22440405	EL, 220mfd, 6.3V
C902	22440279	EL, 47mfd, 6.3V
C903	22440404	EL, 220mfd, 10V
C905	22360344	BL, 0.01mfd, 25V, M
C906	22440405	EL, 220mfd, 6.3V
C907	22360344	BL, 0.01mfd, 25V, M
	RESISTORS **All resistors are carbon film 1/8W, ±5% unless otherwise noted.**	
R301	22540531	56K ohm (PRC)
R302	22550201	56K ohm (PRC)
R303	22550171	150 ohm (PRC)
R304	22540500	150 ohm (PRC)
R305	22550182	1.2K ohm (PRC)
R306	22540511	1.2K ohm (PRC)
R307	22540490	22 ohm (PRC)
R308	22550161	22 ohm (PRC)
R309, 310	22657255	10K ohm, A, Variable Volume
R401, 402	22540504	330 ohm (PRC)
R403, 404	22540525	18K ohm (PRC)
R405, 406	22540525	18K ohm (PRC)
R407, 408	22540544	680K ohm (PRC)
R409, 410	22540523	12K ohm (PRC)
R411, 412	22540523	12K ohm (PRC)
R413, 414	22540500	150 ohm (PRC)
R415	22540508	680 ohm (PRC)
R416	22540520	6.8K ohm (PRC)
R417	22550181	1K ohm (PRC)
R418, 419	22540522	10K ohm (PRC)
R901	22540513	1.8K ohm (PRC)

9–2. CABINET EXPLODED VIEW

– FM TUNER PACK SECTION –

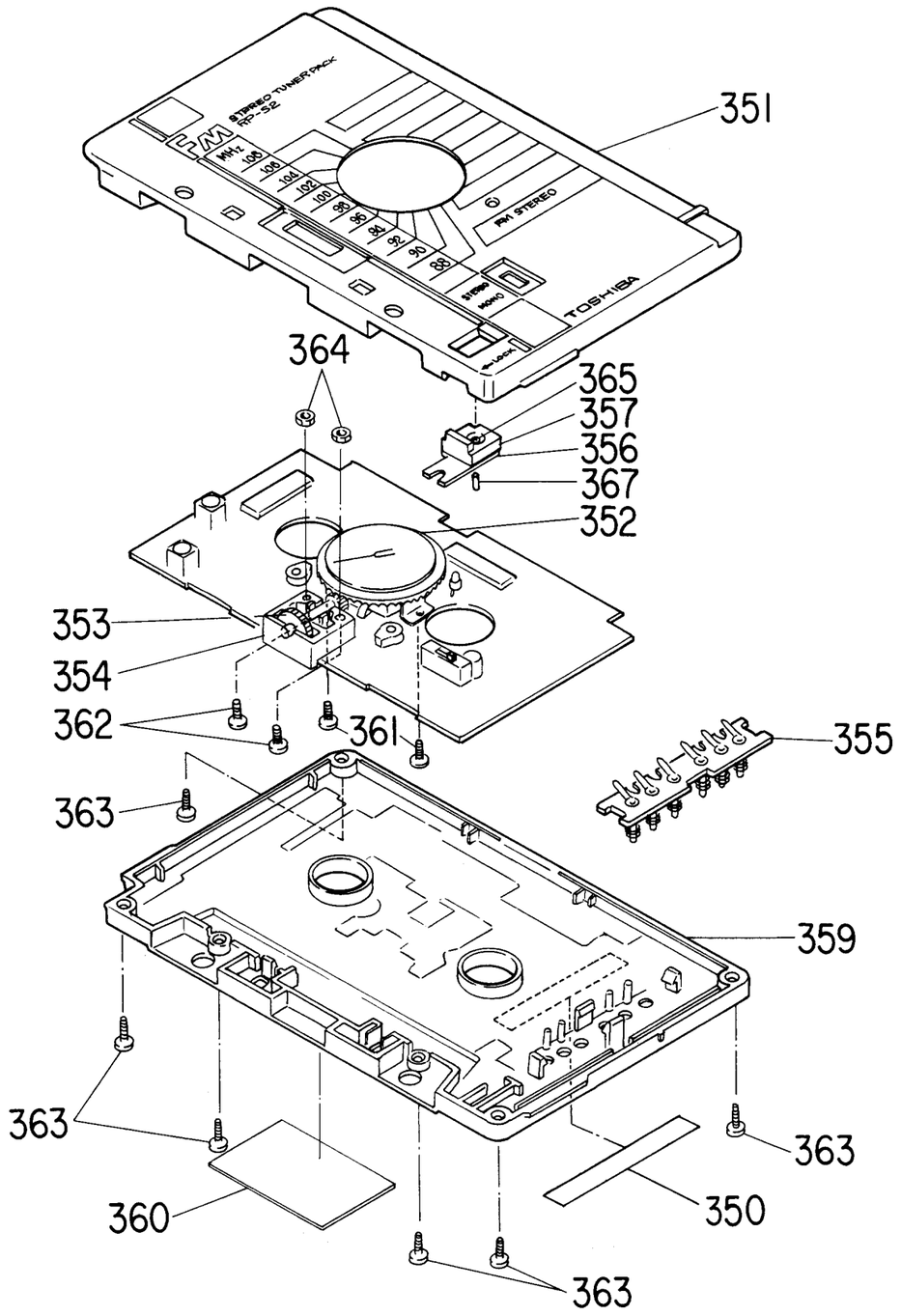


Figure 27.

10–3. PARTS LIST

– FM TUNER PACK –

Symbol No.	Part No.	Description
	CABINET PARTS	
350	22900107	Label, Caution, C
351	22881067	Cabinet, Upper
352	22847374	Plate, Dial
353	22824362	Knob, Tuning
355	22161681	Connector, 6P
356	22713103	Plate, Lock
357	22884082	Knob, Lock
359	22881054	Cabinet, Bottom
360	22866177	Name Label (TA/TC)
360	22866178	Name Label, (YY/AY)
361	22701314	Screw, 2ϕ x 3mm, BID
362	22707555	Screw, 1.7ϕ x 3.5mm, Special
363	22707662	Screw, Special, Tapping
364	22702180	Nut, Special
365	22707614	Screw, 1.4ϕ x 4mm, Special, BLK
367	22758293	Cushion, Tube
	TRANSISTORS, ICS AND DIODES	
Q001, 002, 003	A6319020	Transistor, 2SC1923-O
Q101	B0355421	IC, TA7614AP-W-W/Y
Q201	B0325046	IC, TA7323P-O, Y
D001	A7246703	Diode, 1S1555V
D002	A7289000	Diode, 1S2236
D201	A8601100	Diode, TLR123, LED, RED
	ELECTRICAL PARTS	
L001a	22294416	Coil, FM, LH8403R
L001b	22294414	Coil, FM, LH8402R
L002a	22294415	Coil, FM, Oscillator
L002b	22294413	Coil, FM, Oscillator
L101, 201	22241013	Coil, 10μH
T101	22265811	IF Transformer, FM, IT5811
T102	22267390	IF Transformer, FM, IT7390
S101	22195556	Switch, Slide, Stereo/Mono
Z001	22153197	Filter, FM, 10.7 MHz, Band-Pass
Z201	22153067	Filter, Ceramic, FM, 10.7 MHz (AY/YY)
Z201	22153122	Filter, Ceramic, FM, 10.7 MHz (TA/TC)
	CAPACITORS	
	D = ±0.5pF, K = ±10%, M = ±20%	
	ABBREVIATIONS: CD = Ceramic Desk, EL = Electrolytic	
	BL = Barrier Layer, PS = Polystyrene	
C001, 002	22308206	Poly Variable Capacitor
C003	22309175	Trimmer
C004	22309159	Trimmer

Symbol No.	Part No.	Description
C005	22360563	CD, 18pF, 50V, D
C006	22360366	CD, 1000pF, 50V, K
C007	22360372	CD, 6pF, 50V, D
C008	22360366	CD, 1000pF, 50V, K
C009	22360329	BL, 0.022mfd, 31.5V, M
C010	22360372	CD, 6pF, 50V, D
C011	22360327	BL, 0.01mfd, 25V, M
C012	22360591	CD, 24pF, 50V, D
C013	22360368	CD, 6pF, 50V, D
C014	22360346	BL, 0.047mfd, 12.5V, M
C015	22360329	BL, 0.022mfd, 31.5V, M
C101, 102, 103	22360327	BL, 0.01mfd, 25V, M
C104	22360346	BL, 0.047mfd, 12.5V, M
C105	22360365	CD, 100pF, 50V, K
C201	22440276	EL, 10mfd, 16V
C202	22440320	EL, 0.22mfd, 50V
C203	22440271	EL, 0.47mfd, 50V
C204	22380070	PS, 1000pF, 125V, D
C205	22440272	EL, 1mfd, 50V
C206, 207	22360330	BL, 0.033mfd, 25V, M
C208, 209	22440272	EL, 1mfd, 50V
C210	22440277	EL, 22mfd, 6.3V
	RESISTORS	
	All resistors are carbon film 1/8W, ±5% unless otherwise noted. K = 1000	
R001	22540518	4.7K ohm
R002	22540497	82 ohm
R003	22540522	10K ohm
R004	22540525	18K ohm
R005	22540523	12K ohm
R006	22540530	47K ohm
R007	22540538	220K ohm
R101	22540508	680 ohm
R102	22540494	47 ohm
R103	22550172	180 ohm
R104	22540180	150 ohm
R105	22540218	220K ohm
R106	22540523	12K ohm
R202	22540510	1K ohm
R203	22540522	10K ohm
R204	22658593	4.7K ohm, Semi-fixed Variable
R205	22540504	330 ohm
R206	22540535	120K ohm, (TA7323P-Y)
R206	22540538	220K ohm, (TA7323P-O)
R207, 208	22540516	3.3K ohm

Note: FM Tuner pack for "RY" is optional.

11-1. HEADPHONE EXPLODED VIEW

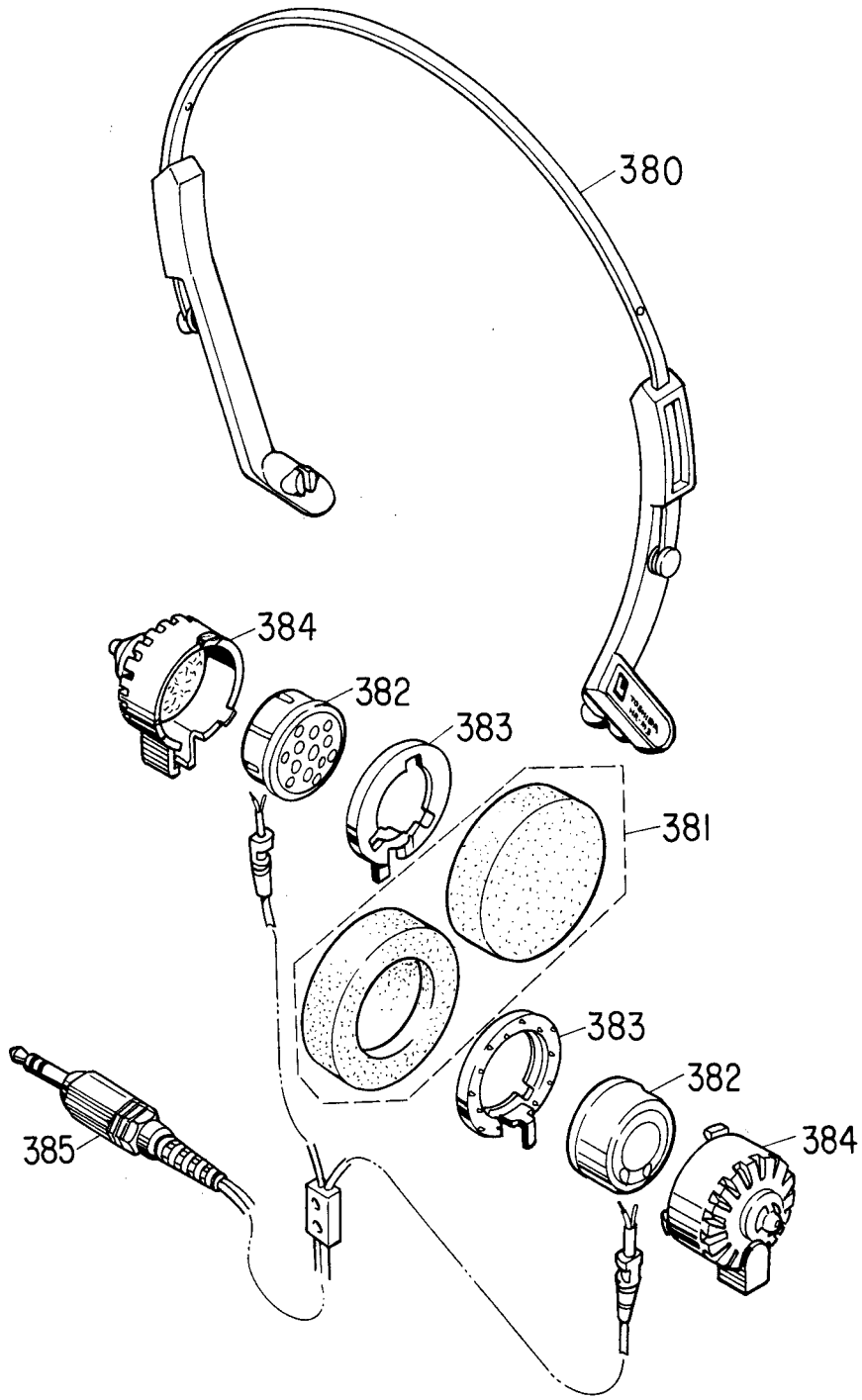


Figure 28.

11-2. HEADPHONE PARTS LIST

Symbol No.	Part No.	Description
380	22810093	Head Band Ass'y
381	22810094	Ear Pad Set
382	22810095	Unit Ass'y
383	22810096	Unit Case, Upper

Symbol No.	Part No.	Description
384	22810097	Unit Case, Bottom
385	22810098	Cord Ass'y With Plug

10–4. PARTS LIST

– ACCESSORIES –

Symbol No.	Part No.	Description
AC01	22903372	Owner's Manual, TA
AC01	22903373	Owner's Manual, TC
AC01	22903374	Owner's Manual, YY
AC01	22903375	Owner's Manual, AY

Symbol No.	Part No.	Description
AC01	22903376	Owner's Manual, FY
AC02	22991101	Carring Case, TA, TC
AC03	22991086	Belt, TA, TC
AC03	22991095	Belt, YY, AY, FY